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INDICATORS OF
SEXUAL ABUSE IN HANDWRITING

Suzy Ward

ABSTRACT: M. Martin has identified 34 atomistic variables found in individuals that have been sexually abused. This paper was an attempt to replicate and expand upon this research. Through the study of 76 known survivors of sexual abuse, a representative graphological profile was created by using a bar chart. This profile was then compared to non-victims and unknowns in order to test its predictive value. Key variables found in survivors of sexual abuse handwritings include misshapen letters, interior intrusions, poorly formed PPI and signatures and retracings in all three zones.

INTRODUCTION

The following research project was undertaken as a result of my interest in information received from a lecture on sexual abuse in handwriting. This lecture was presented by Marilyn Martin, a California graphologist. I could visualize that validating data of the type Martin presented could help not only achieve further respect for the validation of graphology, but could also contribute to the field of psychology as well.

Marilyn Martin studied the handwriting of 2000+ prisoners who had been diagnosed as having been sexualy abused as children. Martin performed a complete analysis on each of the writing samples provided. There are hundreds of graphic patterns that can be distinguished from the study of handwriting. Martin found 34 of them that occurred very frequently in this population.

As Martin tended to take an atomistic approach, many global graphological traits such as organizational ability, rhythm, spontaneity and form level were not addressed. Other graphic patterns did not make the list because they were overlooked or because they were not seen in any overwhelming way in these samples.

One of the chief problems in undertaking any type of study that attempts to identify individualized characterological "signs" in handwriting is relating them back to the whole.

GRAPHOLOGICAL INDICATOR CHART FOR SEXUAL ABUSE

CONFUSED LETTERS
__ a for o
__ b for p
__ others

CONNECTING STROKES
Arcades
__ broad
__ narrow
__ umbrella (covering) strokes
Garlands
__ drooping
__ rockers
Angles
__ sharks teeth

PRINTED LETTERS IN CURSIVE
Small letters
__ b
__ others
Capital letters
__ K
__ others

RETRACED STROKES
Flames (partially retraced at tips)
__ in UZ
__ in LZ
Lower zone
__ p
__ g
__ y
Middle zone
__ m, n, h, k
__ e's
__ c,o,d
Upper zone
__ l,h, k, b,t

ISOLATION (wide spaces between)
__ letters
__ words
__ margins

LEFT TREND
__ narrow left margin
__ within words
__ at ends of words

DISTORTED LETTERS
__ m,n
__ p,g
__ f
__ others (ovals place below)

UNDEVELOPED LETTERS
(formless, weak pressure)
__ s,p,b
__ others

OVAL LETTERS
__ overinvolvement, interior loops
__ intruded
__ pinched
__ figure 8's (not in PPI)

ZONES

UPPER ZONE
__ emphasized
__ non existent
__ t & d stems foreshortened
__ h,b & l stems forshortened

MIDDLE ZONE
__ height varying
__ height increasing in size
__ height decreasing in size: high FL
__ height decreasing in size: low FL
Closing of normally open letters
__ c,z
__ u,w

LOWER ZONE
__ entangling with line below
__ excessive, out of proportion
__ elaborated
__ stopping way below baseline in
__ downturn arcade (smiling depression)
__ truncated

MARGINS
__ non-existent right
__ non-esistent left
__ unbalanced left margin
__ decreasing right margin
__ increasing right margin
TRIZONAL DYNAMICS
Unusual LZ or MZ connection to UZ
__ in low FL writing
__ in high FL writing
__ poor
__ balanced
RIGIDITY/SPONTANEITY
__ rigid
__ precise letter formations
   perfectionism
NARROWNESS
__ within words
__ between words
__ within letters
__ particularly the e
INITIAL STROKES
__ present
__ rigid
__ starting below baseline
SIGNATURE
__ poorly executed/illegible
__ first name larger than last
__ last name larger than first
__ other
PPI (Personal Pronoun I)
__ reverse forms (counterstrokes)
__ isolated
__ extremely small
__ L-PPI overly large
__ U-PPI inflated
SLANT
__ extreme right slant
__ extreme left slant
__ upright
__ inconsistent

RHYTHM
__ rhythmic/metered
__ arrhythmic/irregular
__ unnatural breaks between letters
__ particularly m or n ending below BL
SOLDERING
__ pseudo-connections
PATCHING
__ excessive corrections
VERTICAL STROKES
__emphasized
LATERAL STROKES
__ emphasized
t-bars
__ bowed
__ long
__ short
__ before stem
__ after stem
__ above stem
__ low set
i-dots
__ low set
__ high set
__circled
__ other
SPEED
__ fast
__ moderate
__ slow
PRESSURE
__ heavy
__ light
__ uneven
FORM LEVEL (FL)
__ high
__ moderate
__ low

Addressing the problem of relating the part to the whole, Max Pulver describes the process as "clearing away different layers of a psyche in order to reconstruct impartially the total character with the uncovered elements. [The handwriting analyst] is a translator of movements, an interpreter of visual forms." Pulver tells us that each symbol or pattern uncovered may have contradictory elements to it. Realizing all of this, the present study attempts, from an empirical point of view, to replicate and expand upon Martin's study, to identify, clusters of distinguishing atomistic graphic "signs" or movement patterns in individuals who have, during their childhood, been sexually abused. For the most part, the supposed psychological counterparts to such "signs" have not been identified, nor have these particular patterns been analyzed with respect to global features. However, a holistic perspective has been undertaken from the empirical vantage point by creating a bar chart which represents in a statistical way, the general graphic pattern of these individuals with respect to the 43 indicators used.

It is my hope that with validation of this study, a new tool will emerge to promote testing in other areas. The format of this study could also be used to identify other populations such as alcoholics, drug abusers, people with various eating disorders, artists, business executives, sex offenders and so on.

HYPOTHESIS

My purpose in undertaking this pilot study is to attempt to prove that: There is a statistical probability that an individual who is a survivor of sexual abuse can be identified from specific analysis of his or her handwriting.

METHOD

Martin's list of 34 most frequently found psychomotor patterns or "signs" of sexual abuse were used as the starting point. In addition, 13 more variables were added based upon psychoanalytic criteria, the findings of other researchers and personal experience. After analyzing 55 samples of professionally diagnosed acknowledged survivors of sexual abuse, for these 47 indicators, 4 were found to be insignificant to the profile correlation. Their infrequent occurrence, was the main reason for their elimination from the final list. Thus the list was reduced to 43 graphic indicators, 32 from Martin's original list and the following additional 11 indicators from my research: 4,5,10,11,21,23,24, 26, 31, 33 and 40 (see chart below).

In looking over the list, some repetition may be noted. Further, some variables are less specific than others, form level was not taken into account, and very few relate directly to global characteristics. It was for this reason that the

Master List, above, was created by myself and Marc Seifer. This report, which should be read as a "work in progress" is based upon the 43 indicators listed aphebetically below.

The data base consisted of 76 known survivors' samples. As each individual's handwriting stands alone, a few of these samples were less complete than others and did not strongly correlate with the survivor profile. Nevertheless, they were included to ensure representation of the total population. This pilot study was based upon the analysis of these 76 survivors of childhood sexual abuse, the handwritings collected in a confidential manner from five trained psychologists and counselors. Based upon this research, a profile bar chart of shared graphic indicators has been established. See Graphs 1 and 2.

This study is now in phase two, which consists of the collection of samples of non-victims for a control group, Graphs 7 and 8, and also "unknown" individuals. Once the writings are measured, they are compared to the survivor of sexual abuse profile. As a test to this theory, a third group of 11 "unknown" individuals was collected. These were presented by several therapists. Based upon this procedure, I have been able to separate the victims of sexual abuse from the non-victims in all 11 cases. While this does not prove validation of the method, it is encouraging. Many more samples are needed to lend confidence to this method, similar variables need to be combined and global characteristics need to be identified and integrated.

RULES

Rules for scoring frequency and relative strength of appearance of each indicator is as follows:

SCORE	DESCRIPTION
0	if not found or found only once ("by accident") on a page
X	if found 1-4 times per page
XX	if found 5 or more times per page
XXX	if found frequently on a page

When in doubt, the lower score is always given.

Each indicator has been assigned a color code and when present marked appropriately on the sample; then, a score of 0 - 3 is entered into the computer statistics program. A correlation coefficient of the sample scores to the mean values is calculated based on a comparison to the mean profile of the known survivors. Graph 2 represents the sexual abuse survivor total profile. This is the standard measure that is compared to any new handwriting. By using bar charts, excellent

visual comparisons can be made, along with mathematical statistical correlations. See graphs 3 - 8.
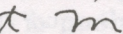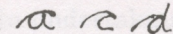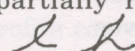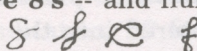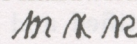
GRAPHIC INDICATORS FOR SEXUAL ABUSE

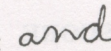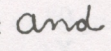Please note: some abbreviations have been used:
PPI = personal pronoun I.
L-PPI = left lateral loop on PPI.
LZ, MZ & UZ = lower zone, middle zone and upper zone.
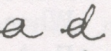
1. a confused for o -- or visa versa.

2. Arcade -- broad. These could be found within letters such as m's and n's, as arched t-bars, in connecting or end strokes: 𝓉 𝓂

3. Baseline -- abnormal. Baseline may descend excessively, be irregular, vary, be convex or concave or ascend excessively.

4. B -- printed in cursive writing.

5. Covering strokes -- extended beyond the base of the letter: 𝒶 𝒸 𝒹

6. Crowded spacing -- between letters, words and lines; signs of compression.

7. Capital letters inserted -- in inappropriate places. The letter k, in particular, printed in cursive -- or out of proportion to rest of the writing.

8. Drooping garlands -- below the baseline.

9. Flames -- upper and lower zone loops with well defined, partially retraced flame-shaped points: 𝓁 𝓁

10. Figure 8's -- and fluid strokes (not in PPI): 8 𝒻 ℛ 𝒻

11. Isolation -- very wide space between words, lines or margins. Isolation of PPI.
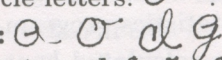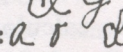
12. Left trend -- narrow left margin, LZ and ending strokes pulled leftward, letters tied or finished to the left, lack of finals to the right, movement within letters counter to copybook.
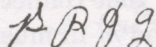
13. LZ deviation from copybook, e.g., tangling of lower loops with line below; any indicator in the LZ which is unusual or distorted. LZ excessive or out of proportion to rest of handwriting.

14. m's and n's disorted: 𝑀 𝒩 ℛ

15. Margins unbalanced or non-existent; uneven, decreasing or increasing.

16. MZ inconsistent in size. Height of MZ letters vary.

17. MZ increasing in size: 𝒶𝓃𝒹

18. MZ decreasing in size: 𝒶𝓃𝒹

19. MZ/LZ to UZ -- any unusual connections from MZ or LZ to UZ:

20. Ovals -- looped. Overinvolvement within circle letters: 𝒶 ; initial loop within ovals: 𝒶 𝒹 ; final loop inside a circle letter: 𝒶 ; double loop within circle letters: 𝒶 .

21. Ovals -- intruded: 𝒶 𝓸 𝒹 𝑔

22. Ovals -- pinched/ retraced: 𝒶 𝓇 𝒹

23. Precise letter structures -- perfectionism, rigidity. Consistency in

all areas, even spacing, even margins, patching, rhythm, lower UZ, artiticial balance (through equality) of three zones, pesona writing.

24. p and g -- distortions:

25. p -- retraced stem.
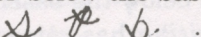
26. PPI -- deviation. Horizontal figure 8 creation on L-PPI; reverse forms and counter strokes: ; o t h e r deviations:

27. Retracings in MZ such as in m's, n's, h's, k's.

28. Restricted movements -- extreme narrowness within looped letters such as e's.

29. Retracing in UZ excessive:

30. Rigidity of initial strokes -- inflexible copybook initial upstroke originating at or below the baseline:

31. Rockers --

32. Signature or PPI poorly formed -- illegible or weak -- and other signs of poorly formed letters.

33. Slant -- excessive. Extreme right or left slant.

34. Slant -- inconsistent. Slant varies considerably.

35. Stroke at end of letter ending below line -- particularly in m or n: (Do not measure ending strokes here.)
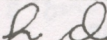
36. Stopping below baseline of lower zone loops -- arcaded turning down of endstroke on lower zone forms:

37. Soldering -- corrections, patching, retouching, excessive corrections.

**38. t and d-stems foreshortened** -- less than two times size of MZH.

39. t-bar bowed -- convex or concave:

40. Top of c'z and z's closed -- or extremely narrowed or distorted:

41. UZ excessive:

42. UZ -- non-existent or extremely undeveloped.

43. Underdeveloped, uneven pressure, soft, formless letters -- particularly in the s, p or b.

ANALYSIS

There are six samples presented, 4 known survivors of sexual abuse and 2 known non-victims. Their charts appear at the end of the report. The first two samples are scored for the entire list for each variable present. Because of space considerations, the last four samples discuss just a few representative variables. All samples provided herein are used with permission.

We begin with the first chart for Figure 1.

INDICATOR	STRENGTH	DESCRIPTION
		LINE
2. Arcade - broad	XX	5:*n* in applying;
		8: upper zone connection in *of*, twice
		18: second *m* in museum, *h* in symphonies
4. *b* printed	0	**Note:** One printed *b* was present on her questionnaire. It is marked as present, but receives a score of 0.
5. Cover strokes	XX	4: *o* in *to*;
		8: *o* in first *of* ;
		14: *o* in *on*
		18: left-tending endstroke of *o* in *symphonies*
10. Figure 8's	XXX	2: t-bar connection in *to*;
		4. t-bar connection in *to*
12. Left trend	XX	No left margin (difficult to see here).
		3: *w* of *know*;
		5: *f* ties to left in *for*
13. Lower zone deviations	XX	3, 5, 7, 8, etc. enlarged lower loops; note also many connect below the baseline
14. m an n distorted	XX	1: *n* in *handwriting* has retracing
		21: *m* in *swimming* has retracing
15. Margins unbalanced	XX	No left margin, uneven right margin
16. MZ inconsistent	X	5. Almost non-existent *o* in *of*.
		9. First word, first letter smaller as entire word increases in size
		10. Large *c* in *fiction*
18. MZ decreasing in size	X	Slight tendency in a few words
		7. *In*
		10. *fiction* twice
19.Unusual connections to UZ	XX	Seen repeatedly in the word *of*.
20. Looped ovals	XXX	2: *a* in *sample*; *o* in *your*
		6. *o* in *job* and *or*
21. Ovals intruded	XX	4. *a* and *o* in *about*
		6. *o* in *to*, *a* in *a*.
24. Deviations in g's and p's	XX	5. g in applying, looped low
		5. *p* stunted in same word
25. Retraced p-stem	XX	5. *p's* in *applying*, retraced

1 Well, here is my handwriting
2 sample, & I'm glad to help you in your
3 research. I don't really know what
4 to write about, but I'll do my best.
5 I kind of feel like I'm applying for
6 a job, or writing to a pen-pal.
7   In my spare time, I do a lot of
8 reading of a lot of different types of
9 books. I love mysteries, intrigue,
10 science fiction, as well as non-fiction
11 & biographies. I love to write poetry
12 & short stories, & I like to draw. I
13 also spend a lot of time with my
14 dog, taking her out for walks & on
15 hikes up in the mountains. She
16 enjoys it so much. I like doing kind
17 of cultural things, like going to the
18 art museum & to symphonies. Boy,
19 as I'm writing this I'm realizing
20 that I like quite a few things. I
21 like tennis, swimming, racquetball,
22 bike-riding, hiking, watching sunsets.
23 I really enjoy being out with nature.
24 The big love of my life, though, is
25 the ocean. I was born & raised only
26 2 miles from the ocean, in Southern
27 CA, so I had the influence of the

Figure 1. Female, right-handed, 36 years of age. This individual has two years of college and works in computer graphics and word processing. She was sexually abused by the father from ages 3 - 7. She has had individual and group therapy.

INDICATOR	STRENGTH	DESCRIPTION
		LINE
26. Deviation of PPI	XXX	3. Cap I's have "flaming" at top.
		9, 12. Restricted lower part, etc.
27. Retracing	X	5. *k* in *kind*
		11. Connection between *w* and *r*
28. Restricted Narrowness	XX	2. Cap I.
		16. *e* of *like*.
29. Retracing in UZ	X	5. *k* in *like*
		12. *h* in *short*
		17. *h* in *things*
30. Rigid initial strokes	X	15. *S* in *She*. Her initial strokes are short and do not extend below baseline so only a slight tendency is marked.
31. Rockers	XX	12. *s* in *short*, etc.
32. Poor self image	XXX	In general, very weak PPI's.
38. Forshortened t- and d-stems	XXX	1. *d* in *handwriting*
		10. *t* in *fiction*, etc.
39. Bowed t-bar	XX	All of them are slightly bowed.
40. Closing of c & z	X	16. *c* in *much*
42. UZ non-existent	XX	1. *handwriting*, etc.
43. Soft p, s or b	XX	5. Light pressure on first *p* of *applying*
		11. Light pressure on *p* in *biography*

Figure 2. Female, right handed, 39 years old. Four years of college, presently, a data entry clerk. She was sexually abused by an adopted father from a very young age until approximately age10. Two samples of her writing are provided below.

INDICATOR	STRENGTH	DESCRIPTION
		LINE
2. Arcade - broad	XX	1. *D* in *Dear*
		3. *a* in *cats*
		14. *o* in *of*
3. Baseline - abnormal	XX	2, 3. Convex baseline
		9. Note *with* rising
5. Covering over strokes	XXX	2. *o* in *some, of*
		4. *o's* and *d's* in *old, old, and*
		14. *a* in *a*

¹ Dear Suzy,

² Am enclosing some pictures of

³ our 3 cats. Kitty is 4-4½ yrs

⁴ old, Butternut is 3 yrs old and

⁵ Silver is about 2 years 3 months

⁶ I will send you more pictures

⁷ and some close ups later. I

⁸ I am also enclosing a picture

⁹ of Dad with   taken

¹⁰ at   & Shopping

¹¹ Center when   biography can

¹² out. We purchased a copy & had

¹³   autograph it to Dad. Also

¹⁴ enclosed is a copy of the news-

¹⁵ paper article on Dad in Nov. 198

¹⁶

¹⁷   Love

Figure 2. First sample.

INDICATOR	STRENGTH	DESCRIPTION
		LINE
9. Flames	X	14. *p* in *copy*
		24. *y* in *every*
10. Figure 8's	XX	6. *c* in *pictures*
		12. *a* in *purchased*
12. Left trend	XX	3. *y* of *Kitty*
		5. Ending of *Silver*
		23. Ending *r* in *year*
13. LZ deviations & entanglements	XXX	Lines 2, 6, 10, etc, lower loops entangle with line below.
14. m/n distortions	X	5. *m* in *months* directional pressure at end
		28. *n* in *return*
15. Margins unbalanced	XX	Writer has little or no margins and rights through ruled margins on lined paper. (Lines not apparent in this copy.)
16. MZ inconsistent	XXX	MZ varies from 2mm to 5mm
17. MZ increasing	XX	5. *m* in *month*
		28. *n* in *normal*
18. MZ decreasing	XX	7. *later*
		8. *picture*
20. Ovals looped	XXX	2. *o* in *enclosing, some*
		19. *o* in *slow*, etc.
21. Ovals intruded	XXX	4. *a* in *and*
		12. *a* in *a, d* in *had*
		23. *o* in *of*
24. P/g distortions	XXX	2. *g* in *enclosing*
		24. Every *g*
25. Retraced p-stem	XX	13. *autograph*
		20. *Reprints*
26. PPI distortion	XX	8. Lower structure out of proportion
27. MZ retracing	XXX	2, 8, etc. *m's* and *n's*
28. Narrowness	XX	20. *e* in *goodies*
		22. *e* in *everyone*
29. Retracings	XX	5. *t* in *about*
		9. *t* in *with*
30. Rigid initial strokes	XX	3. *c* in *cats*
		32. *g* in *gifts*
31. Rockers	XX	26. *p, f* and all the *s's*

"Dear Suzy,

¹⁹ Sorry to be so slow in sending ²⁰ your Christmas goodies, but reprints ²¹ took awhile and I had to wait ²²on more Zoo calendars. Hope everyone ²³has a wonderful new year full of ²⁴every good & wonderful thing imagineable.

²⁵ I had a good Christmas, but ²⁶was depressed before Christmas got ²⁷here. I am glad the holidays are ²⁸over and things can return to normal. ²⁹Mother and I have been getting along ³⁰much better since we talked before ³¹Christmas. She came down before ³²Christmas and picked out my gifts to ³³be³³ sure they fit. Bill and I still have ³⁴many, many differences to work out. ³⁵Just between you and ~~I~~ me, I'm afraid it won't be possible, but I'm

Figure 2. Second sample.

INDICATOR	STRENGTH	DESCRIPTION
		LINE
32. Poor PPI	XX	6,7,8,21. Note cross-out of I on line 7.
33. Excessive slant	X	33. *y* in *they*
34. Inconsistent slant	XX	lines 22-34 show great variation
35. m/n ending	X	32. *n* in *and*
down		36. *m* in *I'm*
37. Soldering	X	20. *you're*
or patching		25. *ma* in *Christmas*
38. Forshortened t/d	X	4. One *t* in *Butternut*
39. Bowed t-bar	XX	Some can be seen throughout.
40. Closure of c/z	XX	1. *z* of *Suzy*
		2. *c* of *enclosing*
		11. *C* of *Center*
43. Underdeveloped	XX	10. *p* in *shopping* have tremors
s/p/b		32. *s* in *Christmas* soft, and rounded

Figure 3. Female, right handed, age 11. Severe case of incest perpetrated by the father. Note the covering overstrokes in the d's a's and g's, (Variable 5); intruded ovals (Variable 21) of these same letters; and extreme closure of the c in the word vacation, line 11 (variable 40).

3   With the help of Bill, my friends & my
4 Children I ~~will~~ ^{am} getting through this. Part of
5 my recovery means confronting you
6 with my knowledge of what happened
7 and what you did and did not do. What
8 I needed at the time was support,
9 understanding and protection from
10 further harm by DeeDee. What I would
11 like now is a simple apology. I'm _{helpful now.} ^{would be}
12 do not saying this to hurt you, it's
13 just that the time has come to speak
14 the truth. If you would be more comfortable
15 pretending you never read this letter, I
16 will understand. ~~because~~ you couldn't
17 ~~deal with these facts when they occurred,~~
18 it is likely that ~~they~~ ^{these events} are still very
19 difficult for you to confront. If you
20 would like to talk about it, I would
21 be willing, but only to help you understand

Figure 4. Female, right handed, age 43. This lady is a Ph.D. psychotherapist, who was incested by her father, with the memory surfacing two years after this writing. Note the printed b, lines 10, 16 and 21 (variable 4); distortions on m's and n's on line six on the words my knowledge, (variable 14); unusual MZ to UZ connections beteween o and t in *protection*, line 9 and *ou* connection, line 20 (variable 19); and intruded ovals, the a's and one d in line 7, a in at, line 8 (variable 21).

3 The spring snow is Thick on the ground - I love

4 Spring snows - wet and heavy - The air is crisp -

5 and everything smells new and clean -

6   On days like today - I am reminded of

7 The Québec winters and springs - When May

8 rolled around I was only too ready to put away

9 my heavy winter coat and Thick rubber boots -

Figure 5. Female, right handed, college graduate, age 40. This is the writing of a KNOWN NON-VICTIM. We note broad arcade connections, such as the *on* connections on line 3 (variable 2); printed *b's*, line 9, drooping garlands, between the *i* and *t* in *writers*, between *e* and *n* in *when*; and a deviation on the p of put, line 8, but these are not heavily emphasized, and, most importantly, the overall pattern is very different than the survivor profile. See Graph 5.

1 I just noticed that my margin

2 is smaller on this sheet than it was

3 on the 1st page. At least it started

4 out that way. The trouble with being

5 an analyst is that self analysis always

6 keeps cropping up.

Figure 6. Female, right handed, age 60. M.S. in chemistry, retired convent school principal and graphologist. KNOWN NON-VICTIM. Note retraced t's, (variable 29); and pinched, retraced a's in the words least and started, line 3 (variable 22). However, most features do not match the survivor profile. See Graph 6.

STATISTICS

% Occurances
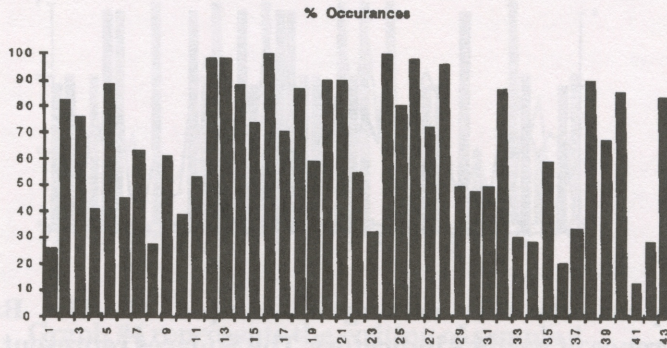
Graph #A shows the Percentage of Occurrence for all 43 indicators in the samples studied. On the right side we have 0-100% occurrence and on the lower side, each indicator listed by number. This chart shows -- for each indicator -- the percentage it occurred in the 76 known samples. For example, indictor number 12, 13, 16, 24, 26 and 28 occurred or were present in more than 96% of the 76 samples.

Average Totals
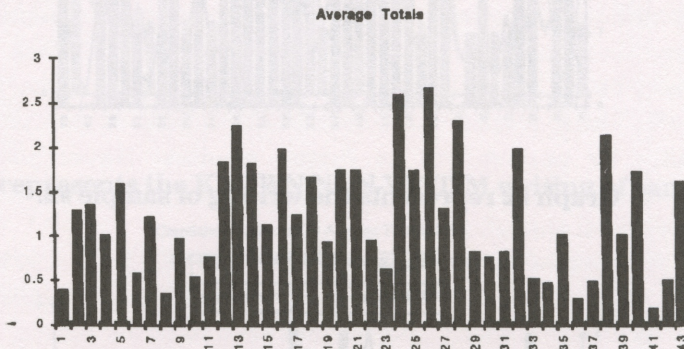
Graph #B reveals the average strength for each indicator studied and represents our PROFILE. Remember, each indicator was rated or scored on a scale of 0 - 3. Note the left side of this graph is 0 - 3 with the indicators numbered across the lower edge. For example, trait #26 scored an average strength of 2.6 for the 76 samples. So, this indicator was usually strong in each sample in which it was present.

Correlation Coefficient to Average Totals: 0.503
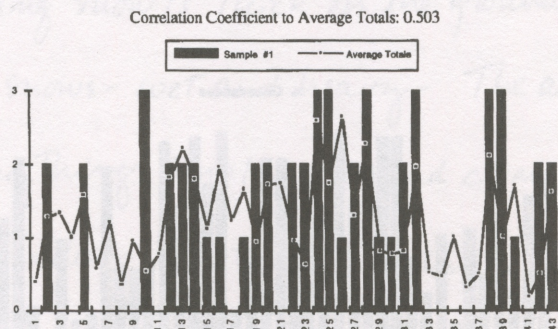
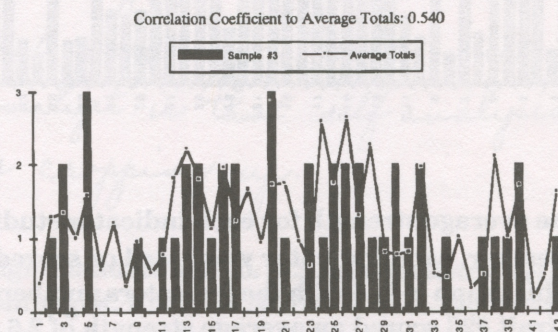**Graph #1 represents the writing of sample #1. The Bars represent strength/occurrence of writer's indicators. The Squares represent the average for each variable of all the "survivor profile" indicators.**

Correlation Coefficient to Average Totals: 0.697

Graph #2 represents the writing of sample #2.
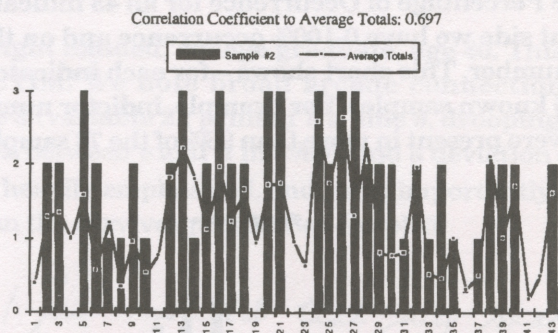
Correlation Coefficient to Average Totals: 0.540

Graph #3 represents the writing of sample 3.

Correlation Coefficient to Average Totals: 0.746
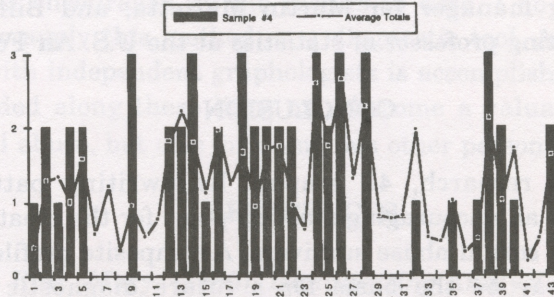
Graph #4 represents the writing of sample 4.

Correlation Coefficient to Average Totals: 0.285

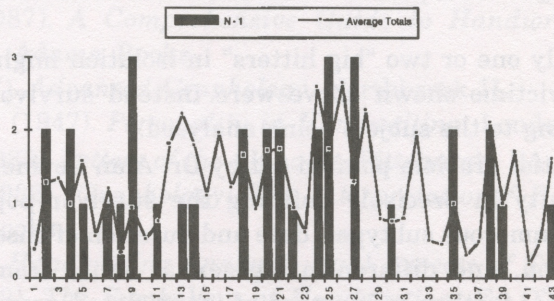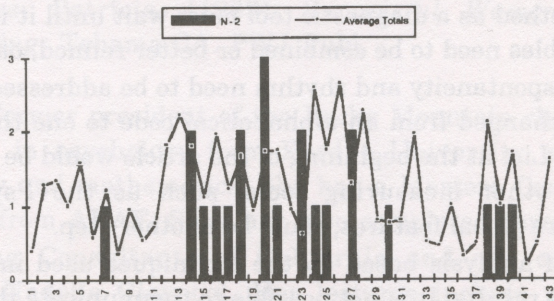**Graph #5 represents the KNOWN NON-VICTIM writing of sample 5.**

Correlation Coefficient to Average Totals: 0.294

Graph #6 represents the KNOWN NON-VICTIM writing of sample 6.

Consultants for the statistics in this project are Bill Ward, my husband, software engineering manager for Martin Marietta, and Bill Ryan, Ph.D. in mathematics and visiting professor of statistics at the U.S. Air Force Academy.

CONCLUSION

Through this research, 43 graphic handwriting patterns have been uncovered which form an encouraging starting point for the creation of a definitive handwriting profile of sexual abuse survivors. A composite profile, such as the one seen in Graph A, may be the basis for a future diagnostic tool. Non-victim correlations vs. survivor correlations to the profile have, so far, been shown to be very different. Several indicators occur in virtually all survivor samples with corresponding strong statistical scores. But these data must be viewed as a whole. The presence of an individual indicator, or just a few indicators, no matter the strength, is inconclusive as to its relationship to sexual abuse. The statistical stability of correlating with a profile of 43 indicators vs. 1 or 2 indicators is an important factor.

Looking at only one or two "big hitters" in isolation might lead an analyst to say the two non-victims shown above were instead survivors. This could be particularly devastating to the subject being analyzed.

Another potential problem pointed out by Dr. Alan Levine, in reviewing this article, is the difficulty in precisely defining the survivor population vis-a-vis sexual abuse and its numerous subtypes, date and duration of onset, with or without penetration, and so on, and differentiating sexual abuse from physical and/or emotional abuse. Thus, further refinement of interrelated groups and subgroups should probably be undertaken in future studies. Nevertheless, all of the individuals in this study were diagnosed by competent professionals, and also, all of them acknowledged this abuse.

Use of this method as a diagnostic tool must wait until it is better perfected. Certain graphic variables need to be combined or better refined, other features, such as pressure patterns, spontaneity and rhythm need to be addressed, and the order of variables, should be changed from an alphabetical code to one that groups similar indictors. The Master List at the beginning of the article would be a first step in this direction. Utilizing other measuring tools, such as the Psychogram, which addresses itself to more global features, could be another step.

Consistency of analysis based on the techniques used in the study is still necessary to duplicate results. It is not possible to communicate these techniques in sufficient detail in an article such as this to achieve repeatability. Verification of the method using blind testing, the more comprehensive list and further statistical

analysis is yet to be completed.

While I am encouraged by the results to date, I do not recommend that anyone attempt to apply this method as a diagnostic tool. As further, refinement and verification with independent graphologists is accomplished, I am hopeful that a procedure founded along these lines may become a valuable tool, not only for survivors of sexual abuse, but also for numerous other personality types.

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BIOGRAPHY: Former president of the Rocky Mountain chapter of AHAF, Suzy Ward has a B.S. in psychology from Purdue University with triple minors in biology, chemistry and mathematics. She has a Masters Certification from IGAS and certification from AHAF. Suzy has also completed three graphology courses from Handwriting Consultants of California and one course in questioned documents from Nadelle Claypool. Her lectures include presentations of this research at the 1990 COGS Ohio convention, 1991 AAHA conference in Chicago and the 1992 AHAF/AAHA conference in Denver.